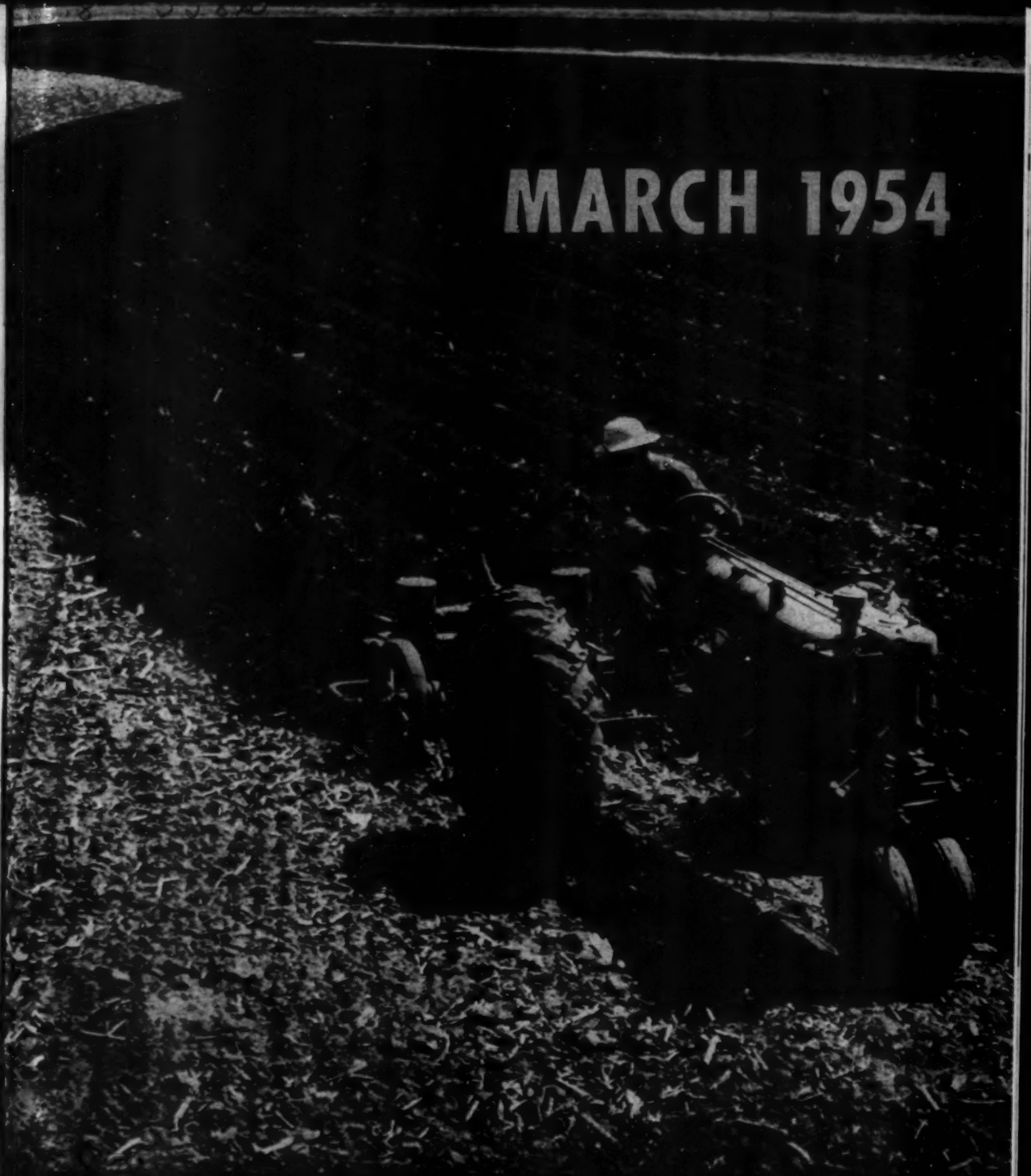

MARCH 1954

SOIL CONSERVATION

OFFICIAL ORGAN OF THE SOIL CONSERVATION SERVICE

SOIL CONSERVATION

MARCH 1954

VOL. XIX—NO. 8

EZRA TAFT BENSON
SECRETARY OF AGRICULTURE

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ADMINISTRATOR, SOIL CONSERVATION SERVICE

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★ THIS MONTH ★

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WELLINGTON BRINK
Editor

SOIL CONSERVATION is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business, under approval (August 6, 1951) of the Director of the Budget. SOIL CONSERVATION supplies information for workers of the Department of Agriculture and others engaged in soil conservation.

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CITIZENS FOR CONSERVATION.— Gerald P. Nye, former United States Senator from North Dakota, has been elected president of the newly-formed non-profit organization, Citizens for Conservation. Clarence C. Case is secretary, and Daniel W. Bell, president of the American Security and Trust Company, is treasurer.

Incorporated in the District of Columbia, Citizens for Conservation has been formed to promote the conservation of human and natural resources at the community level, Case explains. The new group seeks to enlist the support of communities and the general public in conserving community, as well as national resources. Case points to the 3 million alumni of the old Civilian Conservation Corps as a potent but unused force in furthering such projects as community beautification.

In addition to Nye, Bell and Case, directors of Citizens for Conservation are John A. Behnke, associate administration secretary of the American Association for the Advancement of Science; Howard A. Meyerhoff, president of the Scientific Manpower Commission; John E. Hartshorn, attorney; and Fred Packard, executive secretary of the National Parks Association.

FRONT COVER.—A scene that will soon be a familiar one all over the Corn Belt: listing corn on the contour. This photo by McLean was made on the Albert Miller farm near Waco, Nebr.

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A Lot of Folks Plant A Lot of Pines

Here is an example of efficient organization to accomplish a specific conservation aim.

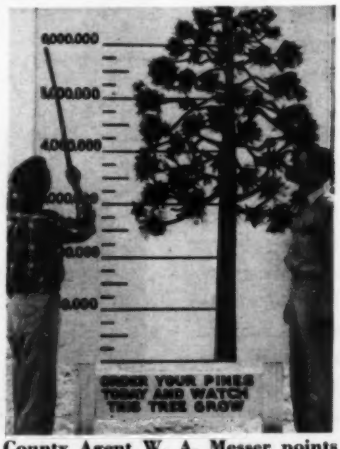
By A. T. CHALK

This young lady might well be titled "Miss Pine Tree of 1953." She is Miss Betty Bollman, Jefferson High School student and member of the Camp Fire Girls, active in the tree-planting campaign.

THERE was a time when Marion and Cass Counties in eastern Texas had a thriving prosperity that was largely based on their forests of valuable pine trees. But, because of the practice of clean cutting then prevalent, the woodlands were wiped out and so was the prosperity.

Attempts were made to grow row crops on some of the denuded land but the sandy soil leached and washed away and the fertility of the land, naturally low, became lower. Crop yields dropped to unprofitable levels, and the effort to farm the land was abandoned. Today much of the land in the two counties is idle, producing neither farm income nor taxes.

There has been an awakening, however, in the two counties that now comprise the Marion-Cass Soil Conservation District. It is realized that the prosperity of the two counties must depend in the long run on woodlands of marketable pine trees and that the sooner the land is restored the sooner will the prosperous days of old return. That has been known for some years and reforestation has been a goal toward which the supervisors of the Marion-Cass Soil Conservation District and others have been working. Now, however, they have widespread and unified support of a definite plan to put the idle land to its best use: the production of pine trees.



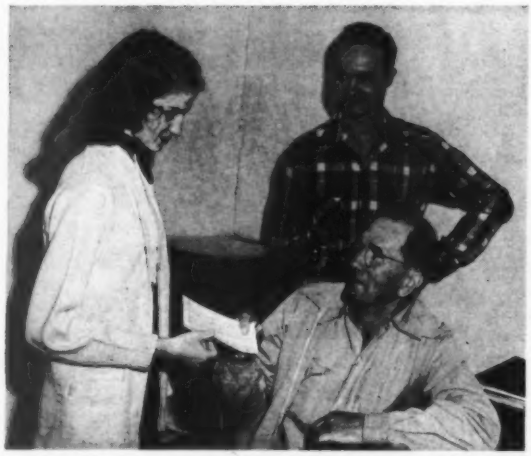
County Agent W. A. Messer points to the campaign's goal on the big signboard on the courthouse square. George Marks is equally interested.

The goal this planting season (December 1953 and January and February 1954) is to plant 6 million pine seedlings. Whether or not the goal is reached, it will be the greatest planting season in the history of the two counties. By the start of the planting season, 3 million pine seedlings had been ordered. Last year, a record at that time, half a million pine seedlings were planted in the two-county soil conservation district.

The present large accomplishment is merely a good start. Six million seedlings will take care of about 6,000 acres. But in the Marion-Cass Soil Conservation District there are 234,110 acres that ought to be reforested with profitable pine trees. Most of that land, comprising 30 percent of the total area of the two counties, is producing little if anything today.

"We're off to a good, solid start," says Russell N. Cash, farmer-banker of Atlanta, one of the communities that stands to benefit substantially. "We realize that 6,000 acres make only a slight dent in the acreage that has to be replanted to pines, but we are well organized now and everyone in a

NOTE.—The author is area conservationist, Soil Conservation Service, Mt. Pleasant, Texas.



Miss Peggy Duncan, Jefferson High School student and Camp Fire Girl, takes check from T. G. Brooks for 2,000 pine seedlings which he ordered for planting on his farm near Jefferson. County Agent Messer smiles in approval.

position to help understands and appreciates the problem and wants to do something about it. We've built up a momentum that will carry the project faster toward its goal with each passing year." Cash manages the properties of Paul Pewitt, and his place as chairman of the drive has been taken by Dr. Joe Nichols, doctor-farmer-supervisor.

The tree-planting campaign was sparked by the district's board of supervisors: H. T. Allen, of Atlanta, chairman; C. F. Hall of Hughes Springs, Robert Earl Hasty of Jefferson, Dr. Joe D. Nichols of Atlanta, and A. B. Hall of Jefferson.

The supervisors started off early in the spring of 1953 to organize their campaign by meeting with representatives of various agencies, organizations, institutions, business and industry. Before long every community was well organized to promote interest in the campaign.

More than 70 units have taken active part in the project. These include paper and lumber firms, chambers of commerce, county courts, Texas Forestry Association, public utilities, veterans' classes, individual merchants and professional people, Texas Forest Service, Extension Service, vocational agriculture teachers, the former Production and Marketing Administration, Farm Home Administration, Production Credit Administration, school superintendents, principals and teachers, banks, railroads, manufacturers, Lions' clubs, Rotary clubs, garden clubs, Rural Neighborhood

R. C. Wood, vo-ag teacher at Linden, gives a practical lesson in woodland management to a group of Future Farmers of America. These pines were planted on worn-out cultivated land by Thomas Cloniger 4 years ago when he was an FFA member. For this and other work he was awarded the Lone Star Farmer degree.

These men are working out details for the current season: Carl W. Stripling, SCS forester; Herbert O. Evans, work unit conservationist; Herman K. Byron, educational officer, Texas Forest Service; Ernest O. Kennedy, Cass County judge, and Truitt Powell, county agricultural agent.

Strategy session in Atlanta: Mayor F. P. Ellis, Russell N. Cash, agricultural agent of Atlanta National Bank; Marvin Hagemeier, manager of Atlanta Chamber of Commerce, and Joe M. Graham, bank cashier.

Mrs. Erbie Carroll teaches woodland conservation to a group of her sixth and seventh grade pupils of Lassater Elementary School. These youngsters were in on the poster contest.

Mrs. Joe W. Lovelace, president of Linden Garden Club, inspects a young pine tree in a plantation at the Texas Forest Service headquarters in Linden. All local garden clubs are participating in the drive, and Mrs. Lovelace is their general chairman.

Improvement Councils, Rural Electrification Administration, Boy Scouts, Camp Fire Girls, auction barns, radio stations, newspapers, magazines, clergymen, city governments, pulpwood producers, Farm Bureau, Parent-Teacher Associations, the Southern Pulpwood Conservation Association, and the Soil Conservation Service.

Each unit was given specific responsibilities, and one person designated for each kind of activity. For example, the 11 garden clubs in the district accepted the task of conducting a poster contest in the schools and Mrs. Joe W. Lovelace, president of

P. H. Driskell and W. T. Ware, Jr., operate one of the lumber companies that have worked hard on the tree-planting project

the Linden Garden Club, was named general chairman responsible for the success of the project throughout the two-county soil conservation district.

Herman K. Byron, education officer of the Texas Forest Service in District 1, was appointed to maintain unity among the participants and to supervise the publicity campaign.

Some of the participants donated money for prizes in the poster competition, to buy "incentive" seedlings (1,000 free trees for each 2,000 bought) and for other purposes. Some donated or lent tree-planting machines and other equipment. The county courts agreed to transport the seedlings without cost. Ministers gave sermons on the importance of protecting the land and keeping it productive. Car-bumper signs—"Plant More Trees"—were distributed. Talks were given before school assemblies and other groups. Newspapers, radio stations and magazines helped to publicize the reforestation project.

"It has probably been the most concerted campaign that any soil conservation district has carried on to attain a specific conservation goal within a district," Board Chairman Allen says.

Some firms owning land in the district were so favorably impressed that they made plans to reforest their own holdings. A large paper company bought a tract of land and arranged immediately to plant 150,000 seedlings this season. "We felt that

(Continued on page 178)

Nash Award Winners

Verne E. Davison is among ten outstanding professional men honored for service to conservation.

WINNERS of the first annual $5,000 Nash Conservation Awards are announced by George W. Mason, president and chairman of the board of the Nash-Kelvinator Corporation, Detroit, Michigan.

Top awards of $500 were presented January 7 at a dinner in Washington to 10 professional workers for outstanding contributions to the field of conservation of natural resources. In addition, medals were awarded to 10 individuals in recognition of their acts of good citizenship in fostering conservation.

The 20 winners were selected by a committee of writers and editors, from among more than 700 nominations.

Mason, in a statement explaining the significance of the award, said:

"The automobile industry has a stake in conservation because so much of the enjoyment of the outdoors depends upon the automobile. We hope this program will impress upon the public the wide scope and scientific nature of modern conservation.

"Today's professional conservationists are mostly highly trained technicians, and these awards are going to men whose work has heretofore been little known to the general public. We also want to give recognition to amateur conservationists, without whose help the professional would be greatly handicapped."

Among winners in the professional class was Verne E. Davison, Spartanburg, S. C., a biologist of the Soil Conservation Service.

Davison was selected from among 729 nominees for the Nash award for his expert knowledge of better conservation measures and practices. His work in combining soil and water conservation with modern fish culture in farm and ranch ponds, and in manageable lakes, gained for him an enviable reputation in the field of conservation. He improved engineering designs, construction methods, public health specifications. His recognition of flood and erosion control, as they affect pond culture, are well known.

Verne E. Davison.

Davison has trained more than 800 soil conservationists, and he has received recognition for his prolific writings on the subject of teaching soil conservation. He has cooperated with other agencies in developing farm-game and farm-pond programs, which included the Fish and Wildlife Service, soil conservation districts, state game and fish commissions, and wildlife research units.

In addition, he contributed to the development of lands and waters for specific game species, such as, plants to feed mourning doves; high-yielding food for ducks on wet-lands; widgeon-grass duck ponds; winter grazing plants for deer, wild turkey and geese; and minimum cover plants for each on various soils in cropland, pastures, and woodlands.

Davison is also well known for helping to erase controversies in the southeast between soil conservation practices and insect control.

He has encouraged and aided younger technicians to further their studies in the fields of wildlife re-

search, fish and game management, and soil and water conservation.

In 1952, he added further renown to his career when he served as aquatic biologist, agricultural research, Union of Burma, for the United States special technical and economic mission. He established a pond research station for the scientific and practical guidance of fish culture in all southeastern Asia that is contributing importantly to world knowledge.

Among Davison's writings are: "Homemade Fishponds," 1953; "Bobwhites on the Rise," 1949; USDA Farmers' bulletins and leaflets on fish ponds, field borders, shrubs, and lespedezas for soil and wildlife conservation; and many popular and scientific articles in state conservation publications and sports and farm magazines.

Other winners among professionals were:

Edward Adams of Frankfort, Ky., education director of the Kentucky Department of Fish and Wildlife Resources; Orrie E. Smith, Amaranth, Pa., district game protector for the Pennsylvania Game Commission; Dr. Charles R. Hursh, Asheville, N. C., research forester of the U. S. Forest Service; J. Burton Lauckhart, Seattle, Wash., chief game biologist of the Washington State Game Department; Carl E. Schwob, Chevy Chase, Md., sanitary engineer of the U. S. Public Health Service; Charles A. Rindt, Portland, Oreg., forester with the U. S. Forest Service; Roger M. Latham, Harrisburg, Pa., chief of wildlife research, Pennsylvania Game Commission; Dr. E. Laurence Palmer, Ithaca, N. Y., emeritus professor at Cornell University, and director of conservation education for the National Wildlife Federation; Homer S. Swingle, Auburn, Ala., fish culturist and professor of zoology at Alabama Polytechnic Institute.

Winners in the amateur class are:

Al D. Sutherland, an attorney in Fond du Lac, Wis.; Mrs. E. E. Byerrum, Warrenville, Ill., for her work as conservation chairman for the General Federation of Women's Clubs; Russell Z. Eller, advertising executive of San Marino, Calif.; Lawrence F. Blaney, high school history instructor of Aliquippa, Pa.; Julian E. Heppler, business man of Ogden, Utah; Frank L. Bentz, 73-year-old retired representative of the Maryland Game and Fish Commission; Mrs. T. M. Francis, housewife of Birmingham, Ala.; Francis H. Kortright, businessman of Toronto, Ont.; Harry E. Rector, Vinton, Iowa, insurance man; and C. D. Johnson, superintendent of maintenance of the U. S. Naval Ammunition Depot at McAlester, Okla.

The Committee on Awards consisted of Michael Hudoba, Washington correspondent of *Sports Afield* magazine; Johnny Mock, conservation editor of the *Pittsburgh Press;* Ed Dodd, creator of the "Mark Trail" cartoon strip; Alastair MacBain, chief of the information bureau, U. S. Fish and Wildlife Service; and Pieter W. Fosburgh, editor of the *New York Conservationist.*

District Goes to County Fair

THE CARBON COUNTY (Pa.) Soil Conservation District, in a novel and effective way, presented their 1953 program to the farmers via the local county fair. Through the cooperation of the fair association, a large tent was obtained and erected on the grounds near the front gate.

All the agencies cooperating with the district were offered space in the tent. Among them were the Pennsylvania Fish Commission, the Pennsylvania Game Commission, the Interstate Commission on the Delaware River Basin, the Pennsylvania Department of Forests and Waters, the Pennsylvania Sanitary Water Board, the Pennsylvania Department of Health, and the Soil Conservation Service.

The Pennsylvania Department of Highways, not having an available exhibit, loaned the district a roll of snow fence on which were hung the pictures and charts displayed by the Soil Conservation Service.

The district tent proved to be as popular with townspeople as with farmers. It was one of the most heavily patronized agricultural exhibits.

—HARVEY R. FRANTZ

How Conserve Soil, Water and Oil?

Businessmen of West Texas have a brass-tacks idea for helping strengthen their agricultural economy. This is a how-to-do-it article for the attention of other Chambers-of-Commerce.

By PAUL D. MARABLE, JR.
Director of Information
West Texas Chamber of Commerce

OUT in West Texas, where individualism retains the savor derived from the pioneer tradition, the "do-something-for-the-farmer" approach to rural relations by chambers of commerce is somewhat more difficult to find than in some other parts of the Nation.

West Texas farmers and ranchers are appropriately considered businessmen who don't happen to live in a city.

At the same time, the farmers' city cousins know that in this reign of predominantly agricultural

Gainsville meeting: H. G. Millican, supervisor of Upper West Fork Soil Conservation District; Andy Flusche, business man of Pilot Point; J. M. Weinzapfel, president of Muenster State Bank; and O. L. Fowler, Denton Chamber of Commerce.

Conference at Granbury, sponsored by West Texas Chamber of Commerce: H. L. Sikes and Leslie Hagaman, supervisor of Palo Pinto Soil Conservation District; J. C. Porter, chairman of the chamber's soil conservation committee; and Francis Quinn, of the Mineral Wells Chamber of Commerce.

economy what's good for the farmer is good for them.

Basis for West Texas prosperity, the West Texas Chamber of Commerce has long maintained, is soil, water and oil. The work of this 132-county, 5,000-member, organization in water and oil conservation dates from its very beginning.

"What can the chamber do to promote soil conservation?" its leaders asked.

A constructive idea developed during conferences between officials of the WTCC, Texas State Soil Conservation Board, Association of Texas Soil Conservation District Supervisors, and the U. S. Soil Conservation Service. Taking part in these conferences for the chamber of commerce were Frank Kelley, president of the organization in 1952; Fred Husbands, executive vice president and general manager; R. M. Fielder, chairman of the agriculture and livestock committee; Loyan Walker, manager of the agriculture and livestock department; J. C. Porter, chairman of the soil conservation committee; and J. S. Bridwell, prominent rancher and conservationist, and Robert L. Hoyt, railroad official, both members of the agriculture committee.

The best way to promote better soil conservation practices, it was decided, is to support the soil conservation district movement.

"Because a soil conservation district is authorized to use every local resource in accomplishing its conservation goals, it naturally follows that a chamber of commerce representing the business and professional resources of a community has a real place in the district movement," it was pointed out.

As a result, every chamber of commerce in the West Texas region is being briefed thoroughly on what a soil conservation district is and what it

means to the future of each community. With in-town businessmen completely informed, soil conservation has a powerful ally. This will eliminate some of the difficulty which district supervisors experience in trying to explain what a district is and what it does, proponents of the plan believe.

Here's the way the program works: In an area comprised of 8 to 12 soil conservation districts, a conference is arranged in a centrally located town. The program presented is brief, simple, to the point, avoiding technical details of soil and water conservation practices. On the platform is a four-man panel representing the same groups which met to originate the program. The conservation needs of the district are discussed by an SCE survey supervisor; economic and other benefits of a coordinated conservation program are described by a member of the SCS state office; and the philosophy behind soil conservation districts is explained by a member of the state soil conservation board. A district supervisor and a representative of the Association of Texas Soil Conservation District Supervisors tell about the operations and needs of the districts.

After these talks explaining the organization and operation of soil conservation districts and what their work means to the general economy, plenty of time is allowed for discussion and questions. And city businessmen get to meet and talk with, sometimes for the first time, the leaders in their own soil conservation districts.

In attendance at the 10 area-wide conferences which have been held thus far have been 955 persons from 153 towns, including representatives of 65 banks, 70 local chambers of commerce, and 72 soil conservation districts.

But the area meeting is just the first step.

Already, more than 50 local (single soil conservation district) meetings have been held, patterned along the same agenda as that of the larger area meetings.

"It's the follow-through that counts," says Soil Conservation Committee Chairman Porter, who usually presides. "We don't have these meetings just to have meetings. The people who attend are what we call 'action' folks and if necessary we'll keep having the meetings until all the action folks in West Texas have attended."

Some of the action?

Several chambers of commerce have assisted in arranging joint tours of farmers and businessmen so that both can see what a conservation program on the land looks like.

Encouraged by their chambers of commerce, many banks, utility companies, implement and seed dealers, and other businesses are using soil conservation themes in their regular advertising and are inserting stuffers in their monthly statements to customers.

An integrated program of flood prevention and soil conservation in the Brady area was accelerated noticeably when the chamber of commerce took a positive hand in the program.

A record acreage of cover crops in the plains area around Lubbock was planted, with businessmen joining the ranks in the perennial battle against wind erosion.

The Midland Chamber of Commerce has published "After the Rains, What?"—a pamphlet devoted to information about the value of proper range management and the resulting conservation of soil and water.

And don't count out the womenfolk.

Miss Eudora Hawkins, public service officer of a large utility company and chairman of the conservation committee of the Texas Federation of Women's Clubs, attended one of the area meetings. Miss Hawkins is one of the "action group."

She promptly prepared a series of talks on soil and water conservation for presentation at meetings of women's clubs throughout Texas, obtaining a set of colored slides for illustration.

Interest continues high throughout West Texas. Every local chamber of commerce whose representatives have participated in one of the conferences is including in its program of work some practical, active support for the soil conservation effort.

A LOT OF PINES

(Continued from page 173)

there would be adequate fire control," a company official explained.

Various groups were assigned a certain number of trees for planting. These included Future Farmers of America, 4-H clubs, Lions' clubs, Rotary clubs, Negro Future Farmers of America, Negro 4-H clubs, Veterans' Vocational Agriculture classes, absentee owners, and the general public.

The Texas Forest Service nursery at Alto supplied the pine seedings at $3.25 per thousand.

Irrigation and Mosquito Control

By WAYNE CRIDDLE

IN many irrigated areas of the West, mosquitoes are a menace to the health of humans and cause economic losses because of their effect on animals. Those areas bothered most severely seem to have several conditions in common. Usually the soils are tight, the slopes flat, and generally poor irrigation and drainage practices are used.

Contrary to popular belief, permanent streams and sloughs do not produce all of the mosquitoes. In fact, because of the many natural enemies of mosquitoes that develop in these waterways, such as minnows, few of the mosquito larvae ever develop to the adult stage.

The greatest production of mosquitoes, however, is in those areas flooded intermittently and where water stands for 1 to 3 weeks. According to the entomologists, the adults of certain kinds of mosquitoes lay millions of eggs in the soft mud as the water recedes. These eggs lie dormant as long as a year, if need be. Just as soon as water hits them again, and if the temperature is right, they hatch out and, during the hot part of the summer, within about a week develop into adult mosquitoes that are hungry and ready to go to work on people and animals. If the free water disappears in less time than it takes to develop mosquitoes, we have mosquito control.

NOTE.—The author was formerly irrigation engineer in research, Soil Conservation Service, Logan, Utah.

Sloughs or drains with permanent water such as this contain many natural enemies of mosquitoes.

Ponding water drowns out alfalfa but makes conditions ideal for mosquitoes.

Thus, mosquito control plays right into the field of conservation irrigation. During the heat of the summer, alfalfa and many of our better legumes and grasses will be killed in less than 24 hours by ponding water. Only water-loving plants, can withstand extended periods of ponding. Therefore, if a farmer raises good alfalfa on his field, he cannot raise mosquitoes. On the other hand, if he allows ponds to develop which will raise mosquitoes, he cannot produce alfalfa.

In a recent study in the Milk River Valley of Montana, which is one of the worst mosquito areas of the West, the U. S. Public Health Service found that over 85 percent of the mosquito production in the area came as a result of irrigation, with the major production on the fields themselves. Practically all of this production can be eliminated through improved irrigation and drainage practices, and crop yields will increase materially. Thus, improving public health through mosquito control goes hand in hand with the program of the Soil Conservation Service in managing land for maximum profitable production on a sustained basis. This is fully realized by George Pitch, chairman of the board of supervisors, Paradise Soil Conservation District, which includes the Milk River area in the vicinity of Chinook, Mont. He has asked for assistance in improving the irrigation and drainage practices in the district in the hope that the results will be double-barreled.

Committees Divide the Work

Here is an object lesson in how to organize and administer the program of an up-and-coming soil conservation district.

By HERB BODDY

Above.—These are the live-wires behind the successful committee work in the Illinois Valley Soil Conservation District. First row: Ray Frost, Henry Appy, Ray Nickerson, John Valen, Harry Smith, and C. R. Coles. Second row: Walt England, Tex Clifford, Clem Saver, Larry Cushing, Dick Pinkerton, Clyde Broeffle, Dave Renfro, Allen Teagarden, and Don Barnes.

Left.—The district's dragline here is backdrop for three key committeemen: Clyde Broeffle, Walter England, and E. W. "Jiggs" Morris.

SUPERVISORS in Oregon today are shouldering a lot of man-sized jobs in running the affairs of soil conservation districts. Ray Nickerson, president of the Oregon State Association of Soil Conservation Districts, gives major credit to good committees.

He says: "Well organized committees are the real work horses of the district movement everywhere. There's too much to be done to leave it all to a mere handful of farmers."

Nickerson himself gets things done in the Illinois Valley Soil Conservation District, in Josephine

Forestry committee which is working to finance construction of new district office building from sales of woodland timber: Henri Appy, Dave Renfro, Ray Frost, chairman; Loyd Burnett, work unit conservationist; Ray Nickerson, chairman of district board.

County, through a staff of "assistant supervisors" organized into working committees. The committees, picked from the ranks of farmers, ranchers and business and professional people, are tackling may jobs generally handled by the governing board members. Each "assistant" is an experienced specialist in some particular phase of the good land use program.

"Instead of 5 soil conservation salesmen, we've got 22 on our administration and general services team," he notes. "Such ex officio board members sit in at district meetings and join in the discussions."

It's not a case of "let George do it" for the Illinois Valley dairyman finds that board activities can be simplified and strengthened by inviting townspeople and farmers to share district responsibilities. Here are some of the things committees have done for farmers so far:

1. Eased work load of regular board members.
2. Speeded up district conservation projects.
3. Added expert manpower.
4. Provided supervisory potential.
5. Expanded the overall district program of service to farmers.

The Illinois Valley district has three standing committees—equipment, forestry and program, education and publicity. In addition, there are "assistant" supervisors Henri Appy, who functions as board secretary and gets out the annual report; Allen Teagarden, district treasurer and local banker, and Dave Wilson, bookkeeper.

Nickerson has two basic rules for setting up committees—(1) don't set one up until you have something for it to do, and (2) fill committee posts with top men.

The program education and publicity committee, for example, includes: John (Tex) Clifford, farmer and community leader, chairman; Dick Pinkerton, editor, *Illinois Valley News;* Lawrence W. Cushing, Cave Junction city attorney, and Donald Barnes, principal, Illinois Valley High School. The com-

Don Barnes, principal of Cave Junction High, works on the district's publicity, program and education committee.

Dick Pinkerton, who edits Illinois Valley News, is on publicity program and education committee.

mittee arranges for student tours of the soil conservation district, for classroom speakers on good land use subjects, and for keeping people of town and country informed on the activities of the up-and-coming district. Currently, Barnes is conducting a five-county public speaking contest under district sponsorship with the theme, "Democracy at Work in My Soil Conservation District." Last fall the committee had an attractive display at the Illinois County Fair.

Eventually three separate committees—not one, as now—will handle program, publicity and education.

Clyde Broeffle, chairman, Ray Frost, Dave Renfro, and Walt England, experienced hands with farm implements, make up the district equipment committee. England, Master of the Illinois County Grange, operates the dragline.

When the district needed equipment to speed up drainage, irrigation and pond construction, 10 farmers chipped in and raised $3,500 as down payment on the dragline, while other farmers guaranteed work for the machine.

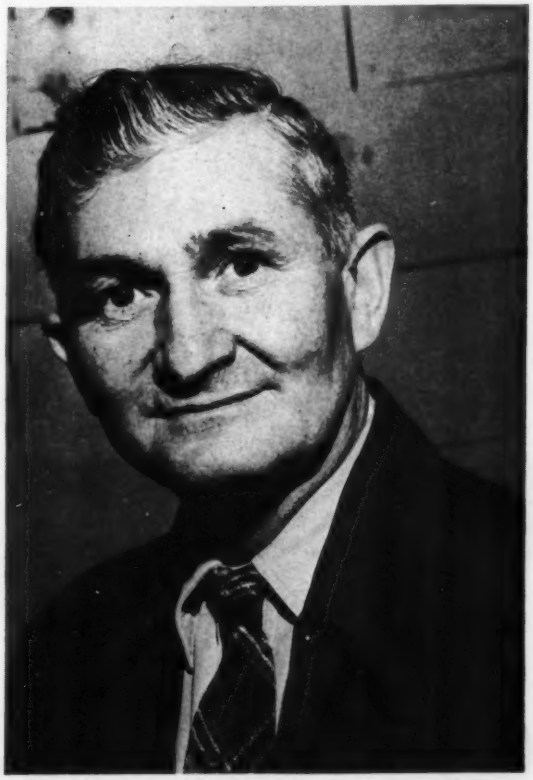
So far the drag has been used on some 100 jobs, including ponds, irrigation reservoirs, sumps, drain ditches, and bridge construction projects in cooperation with county and state agencies.

Some of the larger jobs in which the drag was used, include the Illinois Valley Dairy drainage ditch, the Payne-Leesley-White Drainage group facility, the Holland Irrigation Ditch group, and the Faulk Ditch Irrigation Canal jobs. To date the dragline has grossed around $13,000.

Broeffle's committee and the district supervisors intend to schedule as much equipment business as possible in a community to save the cost of hauling machinery. Emergency jobs get first call, but the general rule is, "First come, first served."

The committee has set up separate funds to cover such items as replacement of worn-out equipment, repairs, and operation of machines, including operator's salary, gas and hauling costs. England and Broeffle make minor equipment repairs free of charge.

Broeffle says that the farmers of Illinois Valley like the present arrangement for handling district-



Ray Nickerson, chairman, board of supervisors.

owned equipment. There is a friendly, cooperative understanding with private contractors.

Much depends upon the ambitious tree-farm program now being shaped up under the district's forestry committee composed of Ray Frost, chairman; E. W (Jiggs) Morris, vice-chairman and manager; Dave Renfro, and Howard Salvage.

The forestry committee's chief purpose is to help owners of farm woodland to manage their timber for sustained yield, so that farmers can cash in on all products of the forest. From its tree-farm program the committee hopes to cut enough timber to pay for construction of a new soil conservation office building and assembly hall, public picnic area and recreational grounds.

School children are being taught woodland conservation and Illinois Valley 4-H Clubbers have started planting Christmas trees on their farms to help pay their way through college.

When there's a "special job" to do Nickerson sets up another committee, as when the district office had to be moved from an ice plant in Cave Junction. On Armistice Day, a quickly formed building committee of some 18 farmers walled in and fitted up an office in the American Legion Hall. Later, when the hall needed a new roof, Nickerson rallied his forces again. "Tex" Clifford was named to head a ways and means committee to help local groups raise funds for the improvement.

But even with standing and special committees hustling the year-around, the soil conservation district board of Ray Nickerson, chairman, C. R. Colee, Ray Frost, Harry Smith and John Valen, still have plenty of work to do. But they have more time for policy-making, for planning and for coordinating.

It all adds up to good land use on a greatly expanded scale in Illinois Valley.

He Believes in Kids and Conservation

By C. E. DAVIS

Sutton Sharp.

HE has never plowed an acre or stacked a ton of hay but he has a lively interest in soil conservation.

His business is "news": the interesting and different things—sometimes brave and fine, sometimes sad, sometimes weak and foolish—that people do.

His name is Sutton Sharp.

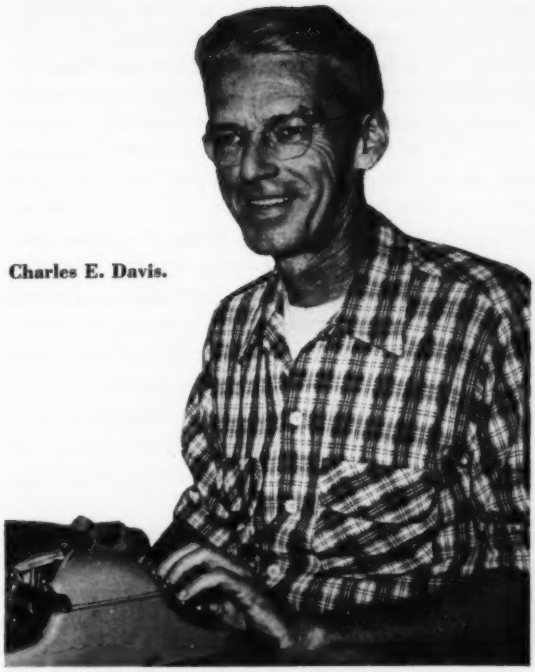
Since 1940 Sharp has been managing editor of the *Times*, a daily paper of Fairmont, W. Va., whose staff he joined in 1922.

The *Times* has made a practice of using a weekly conservation column, plus numerous articles and editorials, on conservation. This, he explains, is, "because conservation is news. People are interested in it. It is also good business."

Typical is the last paragraph of an editorial on "Forests and Their Products," printed October 31, 1951: "There is magic in wood—magic that makes life richer and more comfortable. That's why it is so important that every American do his share to protect the forests and keep them producing perpetually."

The first few paragraphs of another editorial headed "Drought Insurance," printed on August 7, 1952, ran:

"Drought insurance is something that many a farmer right now wishes he could have. There is no such thing but there is something close to it in proper land management.



Charles E. Davis.

"The drought that comes when it isn't expected

EDITOR'S NOTE.—The writer of this article knows whereof he speaks. Every Tuesday the *Fairmont Times* carries a column "Better Living from the Land," contributed by Davis. These columns have acquired a wide popularity because they are timely and written with quiet charm. It really is unfair to do a surgical job on a column which deserves to carry its complete message but I know our readers will enjoy a short "sampler" removed from a column that is fairly typical:

Do you have a food freezer? The thought of packages of golden corn, green snap beans and the melting blandness of limas stored in that miracle box can be a real pleasure when you are preparing the garden for winter.

This year there is no green of ryegrass to draw a fresh mantle over the earth because there is no moisture to sprout the seed. The frosted corn stalks are uprooted and dropped to join the surface mulch already there and slowly blend their strength with the good earth to give us new crops. Not much protection from winter storms pounding on plowed ground but better than nothing.

The hot sun feels good on your back and a flow of perspiration brings a pleasant sense of well being. A trip to the spring for a drink places you close to the base of the pine thicket. A tiny breeze carries the scent of sun-warmed resin and the faint lilt of bird song. The pines are the only green in a scorched landscape.

As you cut the ties of spent tomato vines and pile the stakes, it is fun to find and sample the taste of a late fruit, overlooked by frost. Perhaps some might think it pagan to get such deep enjoyment out of simple things but the Master put them here and He surely understands.

Fresh tarred roofs of the chicken houses glisten in the sun and from within come the clamorous voices of pullets announcing their day's task completed. Others, idle, squabble with their neighbors over the best spot at the feeders.

A dozen leaves drift gently from the maples on the lawn to remind that there are several stacks of them still not carried to the garden. You get the leaf broom and the sheet made of feed sacks. With the sheet spread on the ground it is easy to whisk an enormous pile of dry leaves onto it. It looks impossible to contain them in the sheet but a bit of trampling packs them to where the corners will tie into a great sack. As you heave the sack on your shoulder, you remember the pictures of the little Mexican donkeys with such enormous loads that only feet and ears show. You wonder if you look like that as you carry the load to empty into the wire pen in the garden.

and lasts longer than anyone can predict is a dramatic thing in a creeping, paralyzing fashion. Things go from bad to worse and then there is actual famine for livestock and destruction of property for the owners. It's a terrible thing. Fortunately the federal government can and will help but such help can do no more than help the farm owner weather the emergency—give him time to catch his breath and plan to regain his losses with another crop in another season.

"Less dramatic is proper land management which is geared almost entirely to conservation of water resources. Make more and more of the water soak into the ground and you prevent costly soil erosion. Plant forest where forest should be. Impound water in farm ponds—and raise fish in them too. Plow on the contours in order to hold the water that falls on sloping land.

"There are many, many things that can and should be done in a complete program of land management and it all aims at conservation of water and topsoil."

Sharp doesn't say, but perhaps his interest in soil and water conservation stems partly from his interest in young people.

Over his desk hangs a framed "Certificate of Recognition" from Antioch College for his paper's help in their study-plus-work plan. The *Times* Christmas fund, a Fairmont tradition, is widely known up and down the Monongahela Valley.

In one of his daily columns, "Times Notes," he asked people to support the building of a small lake for public fishing because "youngsters haven't had this opportunity around here for many years. Drainage from the mines poisoned the waters of our creeks and rivers and destroyed the fish life. There just wasn't any place for a kid to go fishing. And maybe we had a lot of juvenile delinquents who would not have been that way if they could have gone fishing."

Sharp recently accepted the editor's post of the Parkersburg (W. Va.) *Sentinel* and has moved from Fairmont. Wherever he goes, you can be sure the cause of conservation will be strengthened in the public mind.

Five College Professors and Their Summer Jobs

By T. S. BUIE

EMPLOYMENT of five college professors by the Soil Conservation Service last summer gave every indication that this type of program has far-reaching possibilities for better understanding and appreciation of the Service's work for better training of future Service technicians by the State Colleges.

This is reflected in reports of the college professors at the end of their period of employment.

Dr. J. H. Neal, professor of agricultural engineering, Alabama Polytechnic Institute, Auburn, pointed out that he obtained a much broader concept of the problems encountered in the different areas of the State. "A number of these problems will be incorporated into the conservation courses taught to students as a result of this experience," he commented.

"There are several phases of teaching which should receive more emphasis," he explained. "For example, (1) more training in sprinkler irrigation design, (2) selection of type of water-disposal areas, (3) drainage patterns for bottom pastures, (4) parallel terraces, and (5) strip farming."

Rush E. Choate, assistant professor, Department of Agricultural Engineering, University of Florida, Gainesville, expressed the opinion that the most outstanding value to be derived from the program is intangible in nature and is not measured quantitatively.

NOTE.—The author is state conservationist, Soil Conservation Service, Spartanburg, S. C.

"The fact that college personnel, such as myself, are given the opportunity to obtain directly through actual field experience a better understanding of the need for, and the responsibilities and duties of the Soil Conservation Service, in itself leads to greater appreciation of the problems" he said.

"The Soil Conservation Service and the colleges have a mutual goal, which is to further agriculture. The consummation of this goal is greatly simplified through cooperation between the two agencies, as well as through the agencies working individually, each in its own appropriate manner."

Professor Choate took part in all phases of the program, including soil mapping, farm planning, and day-to-day work with farm planners and engineers.

"He was impressed from the start with the information that is made available through the conservation survey and its resulting land capability maps," says Henry T. Stanley, area conservationist. "He had taken courses on the side even while teaching and had not been able to get anything more than a group of soil names from them.

"It was immediately apparent to him that the curriculum of agricultural engineers at the University of Florida was not preparing students for work with the Service in that classification. The lack of surveying and hydraulics courses was most evident in the work that our engineers must perform. He stated that he was going to renew his efforts to improve the curriculum in his department."

Professor Choate was anxious to get color slides of problems, projects under construction, structures, and end results. Stanley was able to provide Professor Choate with 100 such slides, which he intends to use as visual aids in his courses. Stanley also provided him with plans or layouts of several water-control jobs to be used as examples of work in the field.

A. W. Snell, assistant professor of agricultural engineering at Clemson College, Clemson, S. C., pointed out that in teaching college students, personal contact is made with a majority of the future agricultural leaders of the State.

"It would be impossible," he said, "to take full advantage of the opportunity of explaining the work of the Soil Conservation Service through contacts with college students without experience of working with the Service.

"In order to train these men adequately, a thorough knowledge of the principles of soil conservation and its related sciences, the ability to impart knowledge, and the organization of material with emphasis on the most important needs are necessary," he added. "Having confidence in the workability of the methods used in the field work is a valuable asset."

Michael S. Kipps, assistant professor of agronomy at Virginia Polytechnic Institute, Blacksburg, Va., indicated unusual interest in the thorough and detailed way in which the Service worked with farmers in solving their problems. He was impressed, too, "By the genuine regard in which they were held by their fellow men—farmers, technical workers in other fields, and business men of their areas."

Said Professor Kipps: "I had been only partially acquainted with the program of the Soil Conservation Service. Now I feel that I have a speaking knowledge and, to a moderate degree, a working knowledge of their problems and solutions.

"I will be in a much better position to combine conservation practices with the technical phases of the subject I endeavor to teach. Knowing that many of my students are employed by the Soil Conservation Service, and believing that others will follow in their footsteps, I should be in a better position to relate the subject matter in my courses to conservation practices."

Dr. J. D. Pendleton, associate agronomist, Virginia Polytechnic Institute, Blacksburg, Va., as well as several others in this program, offered a number of suggestions. Two of Dr. Pendleton's suggestions dealt with procedures at land capability schools held in a number of areas during the summer.

As a more accurate method of determining the textural class of a soil, Dr. Pendleton suggested that the hydrometer method, and in some cases the pipette method, should be used to determine the class before the meeting. He pointed out that at land appreciation schools he attended, some participants did not agree with the textural class given.

A second suggestion about the land appreciation meetings was that the recommended use of land should be decided strictly on the basis of SCS land capability principles. "At one meeting I attended," he commented, "I saw and heard mutterings of disagreement at the rather intensive use suggested by leaders of the school for a rather steep piece of land."

Dr. Pendleton also suggested that in the search for new and more desirable crops which are better adapted to a particular purpose, that consideration should be given to the growth habits, requirements, and other characteristics of some of the older crops.

"It is obvious that we may need to go back to some of these that are being discarded," he said. "Some of these will be used by farmers for a long time."

Dr. Neal, of Alabama Polytechnic Institute, expressed the opinion that some of the engineers make too detailed plans on projects that the farmer has not committed himself to do. This is especially the case with irrigation projects, he said.

"Frequently, when the farmer sees the magnitude of the job, he gives it up," Dr. Neal explained. "A preliminary plan may help the farmer to decide whether he will do the job or not. Unfortunately, the handbooks are not well suited to making quick preliminary estimates.

"All recommendations to the farmer should be made in writing, and a carbon copy kept in the files," he continued. "Oral instructions are frequently misunderstood. Occasionally a farmer will proceed with a project that the Soil Conservation Service workers advised against. If there is no record, the farmer may blame the Service for a failure."

Dr. Neal made the additional suggestion that if the Service plans to employ college teachers next summer, the arrangements should be made as early in the calendar year as possible so that plans for summer teaching or research will not be made.

Quick Results from Sound Land Use

Masonic Home farm rids itself of excess water and stops going broke.

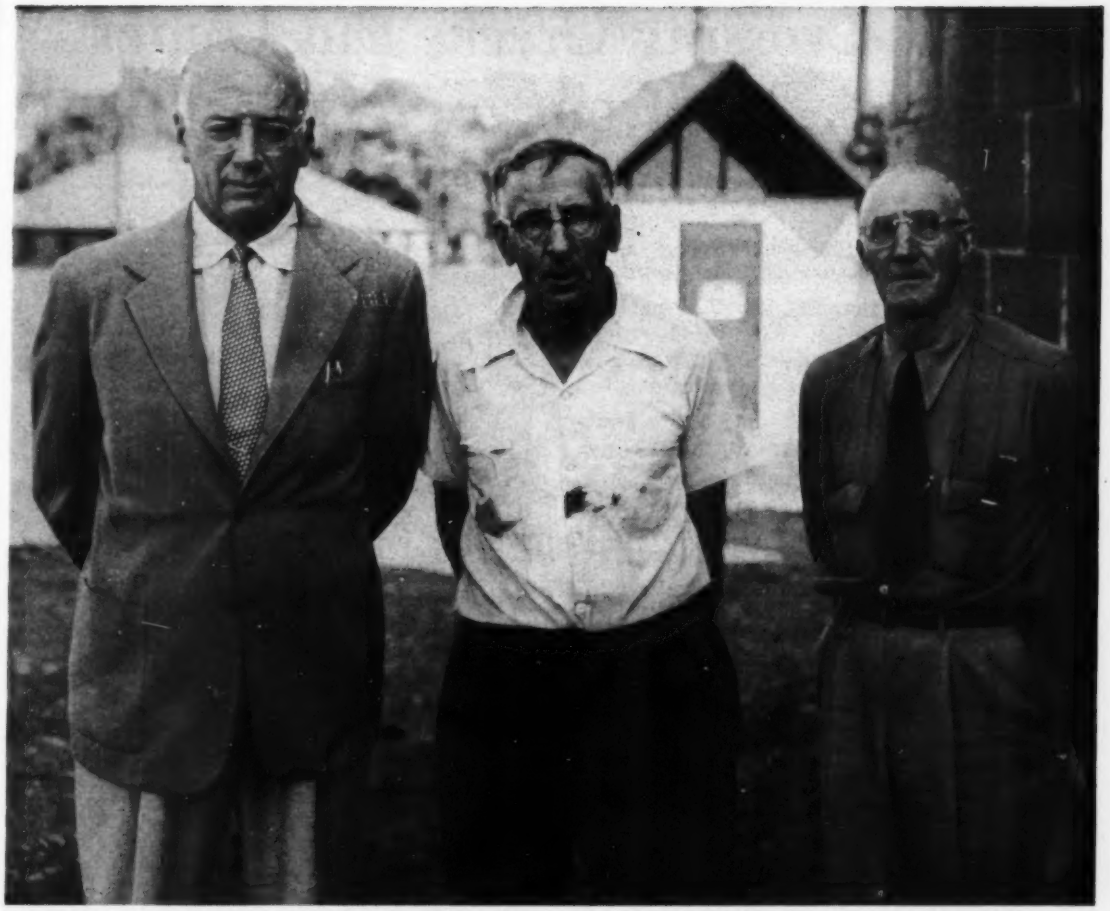
By HUGH EAMES

GOOD farmland in Oneida County, N. Y., that had been operated at a loss for a long time because it was water-soaked and couldn't be worked, now has become a productive 250-acre cropland enterprise. *For the last 7 years, it has turned a profit that averages about $10,000.*

This quick switch from red to black at the Masonic Home's 350-acre farm near Utica began with a $20,000 expenditure for a drainage system, and with a good land use program developed by Farm Manager Luke Bell in cooperation with Oneida County Soil Conservation District. Increased production during the first 2 years after the work was started paid for the whole job.

Involved in this project is the reclamation of nearly 250 acres of cropland by 100,000 feet of tile drainage ditches, 5,000 feet of diversion ditches, and 5,000 feet of safe outlets. Most of the water drained off the land now goes to a creek in a wooded area. The problem of excess water has been completely licked just about everywhere on the farm.

The farm formerly lost money because of high operating costs and because the land was not producing the food needed by the Home or the feed necessary to support its livestock. When Luke Bell took over, none of the land was easy to work and none of it could be cultivated safely with ordinary good farming practices. All of it needed drainage. A lot of it, even with careful management, was good only for growing grass and trees. The land needed practices that ranged from those easy to apply to others that involved intense treatment.



These three men led way in pulling Masonic Home farm out of water and into profitable production of food and feed: Dr. William T. Clark, superintendent; Luke Bell, farm manager; Stanley S. Greene, SCS technician.

On this kind of land, in 1952, production was running 178 bushels of corn per acre, 78 bushels of wheat, and 40 bushels of oats. From one 20-acre tract, which had been an old bog, 50 trees were dragged out and 1,500 feet of surface ditches were dug. Now it is top-flight pasture for the 70 head of Ayrshires—a herd that includes 40 milkers. So far in the 1953-54 fiscal year (March through February) herd production is running as good or better than last year, when 233,313 quarts of milk and 3,264 pounds of butter were produced for use of the Home.

The transition in 7 years means that a farm that was producing only $21,000 worth of food and feed in 1945-46 at a *loss* of more than $2,500, produced $80,000 worth of food and feed in 1951-52, at a *profit* of more than $11,500. In 1952-53 production and profit were slightly higher.

Production in 1951-52 included 78 acres of hay and 75 of pasture; roughage such as alfalfa, timothy and ladino, brome and ladino, and some birdsfoot trefoil. There were 50 acres (4,000 bushels) of small grain and 278 bushels of ear corn. In addition to mowing 167 tons of baled hay, Farm Manager Bell packed 538 tons of grass and corn into 3 silos, and harvested 20 tons of straw.

That was not a particularly exceptional year. The next year Bell harvested 520 tons of corn and grass silage, 307 tons of hay, 35 tons of straw and 3,642 bushels of oats, wheat and barley, all worth $14,695. The Home's livestock—cattle, pigs, horses and chickens—are valued at more than $59,000.

Criss-Crossing Creeks Put Under Control

By ROBERT NELSON

CONSTRUCTION of a new flume, or underpass, for the Burt-Washington drain near Tekemah, Neb., was the most unusual rehabilitation job in which the Soil Conservation Service engaged following the Missouri River flood of 1952.

This project necessitated building a new structure where the drain passes beneath the Tekemah Creek floodway, an artificial aqueduct-type channel carrying the water of two live streams that flow from the hills bordering the valley to the river.

The project was made possible by the special flood rehabilitation money voted by Congress. It was finished in March of 1953, in time to handle the spring flood flows. This included reconstruction of the floodway over the flume.

Actually, the work was highly cooperative. The drainage district did the earth work. The Service designed the structure and contracted for materials and installation. A construction company of Blair, Nebr., was low bidder.

This over-under device for handling drainage water and creek flow goes back 40 years. It was made necessary by the characteristics of the Missouri River bottom land.

Because of flood deposits throughout the ages, the land is several feet higher than land closer to the hills. Consequently, streams which flow from the hills became meandering water courses traveling generally southeast until they entered the river. Their channels were too small to handle runoff from heavy rains in the hills. They flooded often, and built up the level of the land close to them.

Floodwater, trapped by the higher land along the river and creeks, could not escape. It stood on the land until it evaporated or soaked slowly into the ground. Since flooding occurred often, damages to crops and property were costly.

Flooding by Tekemah and Silver Creeks, the largest streams in the area, and the principal bad actors, was ended by construction of floodways.

NOTE.—The author is an agricultural engineer, Soil Conservation Service, Blair, Nebr.

Close-up of tubes shows how ends are made to conform with side slope of embankment for floodway above. One of the metal collars also is seen.

These elevated channels carry the creeks across the lower land. The Tekemah and Silver Creek floodways join just west of the drainage underpass. Thence, the water goes almost straight east to the river.

The drain, which serves 24,680 acres, was built to clear the lowland of excess water which was trapped by the elevated floodway. To collect the trapped water and carry it to the river, the ditch had to pass underneath the floodway.

The original underpass was a reinforced concrete, triple 8′ x 8′ box-type culvert. An eddy formed at the outlet end of the structure during the Missouri flood and undermined it. With the support removed, the weight of the concrete and the embankment above it caused the culvert to break.

Examination revealed that construction of a new underpass at a location slightly east of the old would be cheaper in the long run than repairing the old structure. It also would enable the drainage district to eliminate sharp bends in the drain above and below the flume.

The new underpass is of three corrugated metal pipes 8½ feet in diameter and 301 feet long. They are 4 feet apart, and their ends rest on concrete

slabs 12 inches thick, 35 feet long and 15 feet wide. A concrete collar was built at the center, and metal collars were placed near the ends to prevent seepage. There is a drop of 1 foot between the inlet and outlet ends.

Sheet piling was driven into the ground at each end to prevent undermining. The ends of the pipes were fabricated to conform to the slope of the embankment. Side slopes and face of the inlet were riprapped with bags filled with a sand-cement mixture. Reinforced concrete wings were built at the outlet end, and the face of the outlet riprapped with the sand-cement-filled bags.

Winter was chosen for construction, because of the probable freedom from flood flows. Preliminary jobs included building a temporary dam in Silver creek with a spillway leading to Tekemah creek, a temporary dam in Tekemah creek with a spillway leading to a lateral drain south of the floodway, and changes in parts of the channels of two lateral ditches, one above and one below the flume.

The drainage district began its first work in November 1952, and finished making the huge trench through the floodway embankment the day before Christmas. The trench was about 21 feet deep, 330 feet long, 45 feet wide at the bottom, and with 2-to-1 side slopes. A berm was built at the inlet end for protection against possible flood flows.

Construction of the flume began soon afterward and was finished last March. Working conditions were not the best during the winter, but the concrete was protected and kept warm during the curing period by the use of tents and heaters.

After the pipes were placed, back-filling of the trench was begun. Earth of the proper moisture content was brought in by tractors equipped with bulldozer blades, and was spread between the pipes by a dragline machine with a "clamshell" bucket.

Only 6-inch layers of earth were spread at a time, and each layer was packed with air-driven tamps. Care was taken to remove frost from the top of the fill each morning, and to see that no frost chunks were brought in with the fill material. This was a precaution to prevent holes developing when the frost thawed.

With the pipe laid and firmly embedded in packed earth, the drainage district undertook earth work again. This included restoring the floodway over the underpass, diverting the drain into the new structure, and removing the temporary dams from Tekemah and Silver Creeks. The drainage district still has to clean out 2 miles of ditch below the flume.

A total of $63,935.20 of federal rehabilitation funds was used. This, together with the work done by the drainage district, brings the estimated cost to about $100,000.

Had this rehabilitation job not been done, thousands of acres of fertile bottom land would be subject to frequent flooding by overflow from the smaller creeks and water from heavy rains. The annual loss would run high.

Tekemah and Silver Creeks were not affected, however, since the floodway had not been damaged.

REVIEWS

SOILS AND FERTILIZERS, FOURTH EDITION. Firman E. Bear, 420 pp. Illus., 1953. New York: John Wiley & Sons, Inc., 440-4th Ave., New York 16. $6.

Perhaps no subject is more important to an improvement in world food supply and to efficiency in farming than the expanded and proper use of fertilizer. In primitive societies people can use only the soils that have within themselves the dynamic to remain productive. These make up a very small percentage of the total. During the past 150 years, with the rise of modern technology, civilized man has learned how to overcome plant nutrient deficiencies in the soil; and he has developed an industry to supply the materials. This development alone has brought into use, or potential use, at high levels of efficient sustained production, an enormous area of soils. Much of this potential has been at least partially realized in temperate areas of high culture, but only to a limited extent in large parts of the world.

Dr. Bear has given us a very useful general survey of the basic principles involved in the complex relationships among soils, fertilizers, and plants; principles that are basic to a more efficient, more productive, and more permanent agriculture. He writes with a long and rich background of experience as a college professor of soils, with the fertilizer industry, and as the distinguished editor of *Soil Science*.

In roughly the first half of the book, he discusses

the most important characteristics of soil, the water and nutrient requirements of plants, and the basic principles of the other soil management practices that must be carried out effectively if fertilizers are to have their full effect. This group of chapters is concluded by general ones on soil conservation and animal agriculture.

Then Dr. Bear summarizes a large amount of information about the supplies, forms, uses, and needs for the important plant nutrients under chapters on nitrogen, phosphorus, potassium, calcium, magnesium, sodium, sulphur, trace elements, and mixed fertilizers. These chapters are followed by a brief one on the selection and use of fertilizers and another on the "Yield Potentials of Crop Plants." Many of Dr. Bear's colleagues may be a bit astonished that he gives so much space in this general survey book to what is sometimes called "agrobiology."

Authors of such survey-type books are faced with very serious problems of selection, and likely no two would answer them similarly. This reviewer, for example, would have taken space to review the progress in fertilizer research and development at Muscle Shoals and the great contributions of the cooperative research and farm demonstration program sponsored by the Tennessee Valley Authority and carried out with the State land grant colleges. Also, in order to follow through on the theme of world food production introduced at the very start of the book, one misses a discussion of the highly significant efforts of the Food and Agriculture Organization of the United Nations to push forward the use of fertilizers, especially the world-wide booklet on, "Efficient Use of Fertilizer." Even more surprising, considering the emphasis given to nutrient deficiency symptoms, is the omission of reference to the classic work in this field, Prof. J. Wallace's, "The Diagnosis of Mineral Deficiencies in Plants." (Second edition, 1951). But the omission of these very important items perhaps only emphasizes the vast significance and breadth of the subject.

The text is well written and relatively free of technical terms. It will be useful as an elementary college reader in soils and fertilizers and especially useful to those agriculturists wanting a sound summary of information about fertilizer use with the minimum of technical discussion of chemistry and soil science.

—CHARLES E. KELLOGG

TIMELY DISPLAY.—The Sebastopol, Calif., headquarters of the Soil Conservation Service attracted wide interest last Fall with its community show window of school material. Jean M. Rumley, office secretary, who arranged the display, got a lot of help from such "Main Street" folks as a grocer, a men's shop, [illegible] and the police department.

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COLD-WEATHER CONSERVATION.—An unseasonable 4-inch blanket of snow held no terrors for the hardy crew of tree planters seen above. The work was supervised by the Allegany County, N. Y., Soil Conservation District. Plantation of Scotch and Austrian pine seedlings on a farm at West Almond went ahead in spite of a late 1953 storm. Foresters claimed the increased moisture would favor the young trees. Sticking to a well-organized schedule each spring, Allegany County has reforested 20,000 acres in the past 12 years and established national records in improved soil and water conservation, flood control, recreation and Christmas tree production.